President's Corner

by Dave Schwartz

Our Club is going through many changes now. The BASIC SIG has folded and now we have an opening for 8-bit Librarian, as our current Librarian, Rod Trebino, has resigned. At the August meeting on the 26th, we will be voting for the office of Vice-President. We have a great need for each of you to come forth and give your time to help out with the many Club activities, meetings, SIGs, etc. There are a lot of things the Club can be doing, but it can't all be done by the same few people.

At the August meeting we will have an open discussion session and during this time you can voice your questions, concerns, etc. relating to the Club and its future. I would like to see each of you attend the meeting, if possible, as the direction the Club will take does depend on your input.

Officers Reminder: the next officer's meeting will be Wednesday evening, August 12th at my home. Contact me if you need directions.

We still wait with anticipation for the release of the MEGA STs, the laser printer, 1200 baud modem, 80 column card for the 8-bits, the release date of the new ST ROMS and blitter chip, and the other items we have been looking forward to for such a long time from ATARI Corp.

GENERAL MEETING

**26 AUGUST
SMUD BUILDING
6201 S STREET
7:30 P.M.**

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******** THE AGENDA *********
*                           *
*      ELECTION OF          *
*    VICE-PRESIDENT         *
*                           *
*     DEMONSTRATION:        *
*                           *
*     "Spreadsheets"        *
*                           *
*        RAFFLE:            *
*                           *
*   "Your choice from the   *
*      Raffle Table"        *
*                           *
*****************************
*                           *
*     SPECIAL THANKS!       *
*                           *
*           to              *
*                           *
*      Frank Frymire        *
*                           *
* for letting us to use his *
* ST at the July meeting.   *
*                           *
*****************************
```
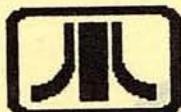
Perhaps these will be arriving in the stores by the time you are reading this newsletter, or at least soon thereafter.

Well, until next month, Happy ATARI Computing!

CLUB NOTES

By Kim Beattie

A.C.C.E.S.S.

NEW RAFFLE CONCEPT A SUCCESS!

It looks like we finally hit upon the right formula with the raffle. The new format seems to be popular with the members and ticket sales are up.

The new format is the "table" concept. Instead of offering only one item each month, we now have a number of items available. Each month we will have one winner and the winner gets his (or her!) pick of the bunch. The rest of the items go back into storage for another month. The advantages of this system are a large selection of items for both the 8-bit and the ST makes the raffle attractive to all members and everybody should be able to find something of interest here. Also, since many of the items on the "raffle table" have been donated by members, the Club is spared the expenses of buying the items themselves. This makes the raffle all the more valuable to the Club.

Did I say donated? Yes! Many of the items on the raffle table have been donated by Club members. The donated items include the original packaging, documentation, and disks. These are not "dead" pieces of software, rather these are programs that the owner has finished (i.e., games) and no longers uses, or they are perfectly good programs that duplicate or are simialar to programs already owned. The raffle items may not be "virgin", but you can't beat the price!

The items on the table include, for the 8-bit: LETTER PERFECT, DATA PERFECT, GRAPHIC GENERATOR, WIZARD'S CROWN, MEGAFONT (1st ed.), TELETARI, RUBBER STAMP, KARATEKA, and VISICALC. For the ST, we've got: ZOOMRACKS II, TIME-KEEPER CARTRIDGE, BALANCE OF POWER, PHANTASIE, KINGS QUEST II, THE BLACK CAULDRON, TIME BANDIT, LEATHER GODDESSES OF PHOBOS, ST STAR RAIDERS, and a MOUSE PAD. There is

also an Atari "Space Age" joystick, compatible with any Atari computer.

On behalf of the Club, I'd like to thank those Club members who have donated software to the raffle table: Tony Di Napoli for many of the 8-bit items, and Bob Coakley for five of the ST items. Bill Brown donated two(!) copies of Visicalc (and I donated another copy of Visicalc and the mouse pad). Thanks guys!

The raffle winner for July was Ed Galvan, and he chose the Atari 1030 modem. (Interestingly enough, Ed is a new member who had just joined the Club. Before joining he had to decide between joining the Club or buying a modem! Coincidence... or fate?

FUND RAISING

The Club is always looking for more ways to make money (aren't we all?) With more funds, the Club can offer it's members more services and benefits. Our current finances are good enough to pay the bills and publish the newsletter regularly and still leave a little reserve. It would be nice if the Club had it's own ST, but new equipment purchases and expanding existing services, like the Club BBS and newsletter are pretty much out of the question.

"OK, I hear you say, "but what's the point? You're not going to ask for more money, are you?" No, but after a lot of thinking (and not a little serendipity!), we've come up with an idea or two for raising funds. Both of these ideas are passive. In other words they require little or no effort on the part of Club members.

First, we will be offering to Club members, for purchase, a book of discount coupons. I'm sure you've seen this kind of thing before. It's chock full of all kind of coupons for all kind of events and services. Two-for-one dinners, and that kind of thing. The book costs $30, and of that the Club gets $6. It costs the Club nothing to offer the book, so now you can see why I call this a passive way of fund raising. We're not asking you

to sell the books or anything like that. If you're interested in this kind of thing, take a look at the display book that will be available at the meetings. If you want one, talk to any officer. (The coupons are good for a year and you'll recover the $30 in savings quickly if you are the coupon using type.)

Fund Raiser idea #2: A paper drive! Do you chuck the newspapers in the trash? What do you do with old magazines? What about all that used printer paper? Save it up and bring it to the meeting! The Club will turn it in to cash by recycling it. All you have to do is put it in a paper bag or box and bring it to the meeting, we'll take care of the rest! That's not too hard, is it? If you're like me, you probably have all kinds of old magazines and papers lying around or neatly stacked for disposal. You'd be surprised how many newspapers and magazines you go through in a month. Well, maybe you wouldn't be surprised, but bring it to the meeting and help your Club. If everyone participates, this could be a very lucrative fund raiser!

UPCOMING

If you'd like to know more about spreadsheets and what they are and what they can do, make sure and make the August general meeting. Michael Stomp will be giving a demo of the spreadsheet VISICALC on the 8-bit. Michael uses VISICALC in a professional capacity, so I think it's safe to say he knows the program and will be able to give a really good demo. Nothing special scheduled for the ST, but I'll probably have a ST spreadsheet or two to look at if anyone is interested.

Remember to keep September the 23rd open. Neil Harris from Atari Corp. will be our special guest that night. It's liable to be a SRO event, so come early!

STAFF CHANGES

Looking for a way to help the Club? Ever wonder what a disk librarian really does? Well, here's your chance! After a long and successful term, Rod Trebino,

the 8-bit disk librarian has resigned the post. Thanks Rod, for a job well done! The 8-bit disk librarian post is now vacant. Here's your chance to contribute to the Club in a meaningful manner.

The disk librarian is responsible for keeping and maintaining the disk library and seeing that the library gets to the general meeting each month. The librarian sells the disks to the membership, keeping a record of the number and type of disk sold and to whom. At the end of each meeting the librarian turns over all monies received to the Treasurer. In addition to these duties, the librarian should take the lead in making new disks available for the library. If he can't do it himself, he should pester other members unmercifully to contribute disks of new material to the library. Finally, the librarian should write some kind of column for the newsletter each month, describing new disks or highlighting some of the older disks.

The disk librarian should be a responsible, reliable person. He is an important part of the Club. A good disk library is an important part of the Club. Are you interested? Think you might be interested? Need more information? Come to the August meeting and talk it over with the officers. The job is open and waiting for the right person...

The Club has a new Membership Secretary. John Lastar has volunteered to fill the position. John is the person to see when it's time to renew your membership or if you have an address change. Thanks John!

Speaking of addresses, remember that the newsletter is mailed bulk rate. That means if you change your address, the newsletter will **NOT** be forwarded to you. Undelivered newsletters are not returned to us either. We have no way of telling if you are getting your newsletter or not. If you haven't been receiving a newsletter, get in touch with John and make sure the Club has your correct address.

See ya at the next meeting. (And bring those newspapers!) O—ᴇꜱ

WINNIE THE POOH

Reviewed by Donna McMillin

Winnie the Pooh and the Hundred Acre Woods (ST), from Sierra On-Line and the Walt Disney Company

Anyone who is familiar with the story of Winnie the Pooh, will probably love this program. It has all the major characters from the stories in it and, although this is technically 'for kid's', I'll bet that a lot of the parents out there will enjoy 'helping' their kids get through it.

Winnie the Pooh is a graphics adventure for ages 7 and up although, if your child can read fairly well, they will probably be able to play on their own. It can be controlled with the mouse or with simple keyboard commands and helps the child to learn basic directions and to work on remembering where things are and where they should be.

The object of the game is to explore the Hundred Acre Woods, find objects, and return them to their owners. If you don't know who they belong to there is a way to get clues. There are a few obstacles to get around (what's an adventure without obstacles?) but they are, at the most, only frustrating. If you aren't able to finish the game at one sitting then you can save it, this comes in handy with kids that have short attention spans. It also comes with a booklet that tells you how to get more out of the game.

There are a few things that we grown ups might not like about the game, but they really don't seem to bother the kids at all. One of them is the graphics. We tend to expect more for the ST. Another is that when there is an item in the place where you need to drop something, you have to move the object before you can drop the proper one in it's place. Since you can only carry one thing at a time, this can become very infuriating.

Most kids will probably enjoy the familiar and catchy tunes and will play this game often. We found that the whole family enjoys it, even babies, who love the music and colorful pictures. All in all I think that you will find this to be a worthwhile game for your children.

O—¤

From the ACCESS Archivist
by Bob Haynes

1. "...Print Shop for the Macintosh...has an annoying tendency to erase hard disks under certain conditions."

2. "...among all Silicon Valley electronics firms...Atari, interestingly enough, was in the top 20, earning 16th place in...1986 dollar sales, with $258 million worth of merchandise sold. At the bottom of the list of 100 firms is Activision..."

3. "With the introdution of Lotus 1-2-3 in 1982, VisiCalc Mentality reached new heights of craziness.... You see, not only can you create unrealistic numeric projections using 1-2-3, but you can also GRAPH them.... More often than not, the numbers and charts... are no more than an accountant's version of fool's gold, and just as valuable."

4. "Navarone Industries has announced an image scanner for the Atari ST.... Hardware dithering procuces 32 gray levels.... Price is $1,240. Call 209/533-8349."

5. "Good news for Apple.... the army has dropped regulations limiting micro purchases to PCs and clones running MS-DOS.

6. "We have LapLink [a product for transferring data between 3.5" and 5.25" disks].... At the notebook end,... it's going to be an impulse buy, like calculators were a few years ago.... in three or four years you'll see a one megabyte laptop (with dictionary, thesaurus, modem, spreadsheet, and word processor) for under $500.

Comments on the foregoing: 1) Just annoying? How about enraging or infuriating? 2) Interestingly... yes. 3) It's called GIGO - garbage in, garbage out. 4) Quick! Somebody buy one. I'd love

(Continued on next page.)

ST SIG Report

by Dave Schwartz

The July meeting was held on Monday, July 13th, and consisted of a discussion of the GFA Basic language. We also saw demonstrations of many programs written in GFA Basic including some written by members of the ST*SIG.

I have received copies of a new BASIC for the ST called "DBASIC", written by DTACK Grounded Inc. It has a very unusual policy regarding distribution. I received 10 manuals, 1 original program disk, and 63 labels. We are to make as many copies of the program as we wish. I am not sure what the catch is and all, as this method of distribution is rather odd (its not even advertised as Shareware!). Not sure how they plan to make any money. They say it is the Fastest BASIC available for the ST. The first thing I noticed was I couldn't find any support for GEM (ALERT boxes and all, like GFA), it also uses line numbers like regular BASIC, and it's the LACK of line numbers that drew us to GFA in the first place. Well, all I can say is come to the next ST*SIG meeting on the 10th of August and get your copy of DBASIC and see what you think of it.

UPCOMING ST*SIG MEETING EVENTS:

The following is a schedule for the next couple of ST*SIG meetings:

August 10th - HOME FINANCE NIGHT

This evening will be dedicated to viewing the various packages dedicated to helping us keep our home finances in order. Among these could be: DOLLARS AND SENSE, SWIFTCALC ST, PHASER, VIP PROFESSIONAL, HOME ACCOUNTANT, etc. Bring your package to the meeting and tell the group why you love it or hate it. We'll also discuss ways to set-up a budget.

September 15th - PC-DITTO/I.B. DRIVE NIGHT

This evening we will see demonstrations of this exciting new product for the STs. An MS-DOS (IBM) compatible program that delivers what it promises. If you own PC-DITTO and the 5

1/4" disk drive, I.B. DRIVE, and would like to demo them that night, please let me know.

Upcoming meetings will include: Magic Sac demo, a word processing night, a database night, and a MIDI MAZE (Kill a Happy Face) contest. If you would like to put on a demo, please contact me.

We also need volunteers each ST*SIG meeting and the monthly ACCESS meeting, to bring ST equipment. Please let me know if you can help out.

The ST SIG meetings begin at 7:30 p.m. on the 2nd Monday of each month at Sierra Hi-Tech at 10561 Old Placerville Rd., near Mather Air Force Base.

(Archives, cont.)

to see how a computer dithers. 5) Just Apple? Howzabout Atari, for instance? 6) What? No file manager? I'll restrain the impulse until it has a DBMS.

Kidding aside, if the above excerpts from Computer Currents (June 13 edition) intrigue you, why don't you pick up a copy? I recommend it. Computertime has a stack by the front door as you go in. It's a biweekly. The price is right: $0.00. For me, it fills part of the niche that InfoWorld used to occupy. The cover on this particular issue is an overhead photo of six sets of knees and feet, all fully clothed, and verrry kinky.

FOR SALE

Thinking About Computers
by Bob Haynes

BOILERPLATING

If you have a mailing address, you've probably received some pieces of junk mail that go something like this:

Dear Mr. CLARIDGE,

How would you and the members of the CLARIDGE family like to spend a free, funfilled vacation in Tonga, the Friendly Islands?...

And so on. The key part of the message is the family name, usually in large type and salted several times into the body of this form letter to give it a "personalized" touch. The kindest words for such efforts are "clumsy, transparent, and ineffectual."

The generic term for mass produced verbiage is boilerplate. Mostly it is a contemptible practice because the product is as crude as oil out of the ground. To see how laughable commercial boilerplating can be, consider what happens when a company – Charlie's Hardware, for instance – gets on the mailing list of one of these outfits: "Dear Mr. HARDWARE," etc. With a bit of refining, however, boilerplating can be an effective tool, especially for the home user.

There are occasions that call for people to clog the mails with missives. One of those is the new bride laboring over a hundred or so cute little thankyou cards to express how much she treasures the ginsu letter opener and scissors she and her new spouse received from you as a wedding gift. Another is the Christmas letter, being used more and more as an alternative to the store-bought card. No doubt you've seen them. They generally chronicle the doings of the family over the past twelve months. Sometimes there is a handwritten note at the end or scrawled up a margin: "Got your letter. Let us know what day you'll be coming through Hackensack on your vacation. We'd love to put you up overnight....", and so forth. Nice. But try this.

1. Write the body of your letter, as usual. Put it in the trusty word processor with some short file name like MB (main body) or US (the goings-on with us).

2. For each person on your list, write a brief note headed with the salutation – "Dear Emma,"; "Dear Larry and Louise,"; or what-have-you. Save each note with a short file name like F8 (first paragraph of eighth letter). The contents of this note might go something like this: "We were so sorry to hear of Uncle Thor's 'passing over'. His memory will remain evergreen with us. On the brighter side, how nice to learn that cousin Brunhilde has moved to Biloxi with her new husband. Of course, we know how you two must rattle about in your house now that Brunhilde has fled the nest for the first time at the age of 36...."

3. Enter the personalized paragraph and print it out. Then enter your two-page family chronicle boilerplate and print that out. Presto! You have a longish letter that feels as though it had been individually crafted for each person on your list. A fundamental difference between the commercial letter and this process is that the commercial letter uses the mail merge technique. You are using a form of file chaining, or concatenation, as some people are pleased to call it.

Do all the printing on a daisywheel printer and sign the letters by hand. Your friends and relatives will all glow with joy that you found the time to compose a two-page letter just for them. Note the specification of a true letter quality printer. This is a personal bias. I believe there are times you do not settle for almost (letter quality in this case). Close, as they say, counts only in horseshoes and in hand grenades.

DeskCart
The ST's Best Friend
Reviewed by Kim Beattie

DeskCart is a cartridge for the ST that includes a battery-backed clock and 14 desk accessories. I purchased mine at the World of Atari Fair down in Santa Clara, but it is available locally. I've been playing with and using DeskCart ever since I got it home and it is neat! Here's a description of what DeskCart is:

The cartridge itself is small and well designed. It fits snugly into the ST cartridge slot and is designed so that it rests on the surface of the table. It's not left hanging our there. It is a small cart; smaller than either the Timekeeper or Logichron carts (although Logichron is thinner).

The disk that comes with DeskCart contains DESKCART.ACC, a small program that calls the cartridge. There is also a calculator accessory that is part of DeskCart, but is kept on disk. A folder (called DESKCART of course) contains the the RSC file and any data files that DeskCart will need. That's it. The rest of the code is contained in the cart itself. DeskCart uses between 75 and 100k of the STs memory (depending on the calculator). For me, this is a memory savings of between 25 and 75K depending on which disk I boot with. Because all of DeskCart's functions fit under one desktop slot I also save 5 desktop slots for other accessories. Right now, DeskCart is the only accessory I have on my DeskTop. It has replaced all the other accessories that I used. Here's a rundown of the DeskCart functions:

CALENDAR: More than just a calendar, this is also an appointment book. It also allows for alarms. The calendar spans time from January 1940 to December 2040. That should cover any appointments I might have in the past, present, or future!

NOTEBOOK: This is a nice little notepad. Up to twelve pages (40 columns) of notes can be written and saved to disk. The twelve page restriction is per notebook file, you can have an unlimited number of notebook files. The notebook word wraps (more than I expected) too. The notebook is not a text processor and it's not meant to be. There has been some

criticism of the notebook because it does not have block copy, move, and delete. Big deal. It's a notepad. If you want to write a newsletter article, use your word processor As a notebook, it works great. Finally I don't have to boot up my word processor to write those one line INF files that many programs like. (Come to think of it, with DeskCart, I don't need those one line INF files anyway!) For jotting down notes and reminders, (or for writing Deskcart macros...) this notepad is just what the doctor ordered!

CARD FILE: I'll be honest. I haven't found a use for this yet (I've only had the cart for a week), but I will. This function acts like a little card index. Information can be put here and the file will sorted and an index, based on a key field, created. Later, you can search this file quickly using the key field (or, less quickly, on any field). This function uses the same routines as the appointment and address book. The difference is that you use this database for whatever you want. A nice addition and I'm sure I'll find a use for it soon!

CALCULATOR: The DeskCart calculator is one of the nicest I've seen for the ST yet. By nicest, I mean functional and powerful. The DeskCart calculator is a scientific calculator and a programmer's calculator. Trig functions and other scientific operators are included and it will do hexadecimal calculaton and arithmetic logical functions. the calculator also has 99 memory registers for your use. This is the only feature of DeskCart that is loaded off disk. The reason for this is, I assume, that the cart itself ran out of memory for all the functions included. This has the added side benefit of your being able to not include the calculator when DeskCart boots and saving about 20K of memory. If you want the calculator, it will be added at boot-up. Even though it comes off disk, the calculator is a part of DeskCart and does not require a slot of it's own on the Desk. The keypad is supported; an important feature for those of us used to using a 10-key. You can also manipulate the calculator with the mouse.

TYPEWRITER: This is a quick and convenient way to type a quick note or address an envelope without booting the word processor or loading the labels into the printer. The Typewriter allows for printer codes to be sent to the printer, so you can use those fancy printer features that you paid for.

ADDRESS BOOK: Another database function, this one keeps names and addresses. You can print the entries as a list or as labels. The address book will also dial the number for you if you have a Hayes compatible modem (doesn't everybody?). After dialing you are given a choice to go voice or modem. If you choose the latter than you are automatically dropped into the...

VT-52 TERMINAL: This is a bare bones terminal program, but it works without having to boot up anything else. On the spur of the moment (even while writing this article using 1ST Word) I can call up and log onto any of my favorite BBSs. It doesn't include any uploading or downloading ability, but for reading and writing messages (80% of my telecommunications), it is perfect... and very convenient!

KEYBOARD MACROS: DeskCart also allows you to define your own keyboard macros. Any keystroke, or group of keystrokes can be put into a macro and called later by the push of the ALT (or ALT+SHIFT) key and another key designated by you. The DeskCart macros do not have any kind of branching features, nor can they "wait" for input. Also, the function keys are not supported; not a bad thing considering how many programs (like 1ST Word) already use the function keys. Even without these features, macros are a powerful utility. And they can be used from within ANY program! If you've used macros before, you know how helpful they can be. If you haven't used macros before, you're in for quite a treat!

RAMDISK CONTROL: This allows you to set up a RAM disk of any size. This RAMdisk can be installed or removed when you want. I've used the RAMdisk feature a lot and have had no problems with it. It will not survive a reset or resolution change. The reason for this, according to QMI is that to do so would mean some "illegal" hooks into the OS that might make DeskCart incompatible with future versions of the OS. I can live with that. Besides, I don't know of ANY "variable" RAMdisk that will survive reset or resolution change. Having a variable RAMdisk is more important to me (most of the time) than it being able to survive a reset.

DISK UTILITIES: Copy, Delete, Rename, Format, and disk Status are the disk utilities included in this feature of DeskCart The format utility will allow "extended" (10 tracks per sector) formatting of disks.

PRINT SPOOLER: You can set up a variable size print spool and regain control of your ST while the printer works. Page length, margins, line spacing and fixed tab space can all be set by the Spooler. This is another feature of DeskCart that will work with any other program you run, GEM based or not.

CONTROL PANEL: This is similar to the control panel (CP) accessory that comes with the ST. This CP seems to be a little more straight forward and easier to understand and operate. (At least for me...) Of course this one takes no disk space, and fits in the same desktop slot with all the rest of the DeskCart accessories. In addition to the normal features of the CP, this is where you set (or change the setting of) the real-time clock that is part of the cartridge. DeskCart can display the current time in the upper right corner of the screen, and you control the display toggle from the CP. Also, clicking the "save" button on this CP saves all of the user settings (clock and/or alarm display toggle, RAMdisk size, spooler size and setting, etc.) to a file called, appropriately enough, DeskCart.INF.

SCREEN DUMP: Okay, so this isn't really a new function. The ST can already do screen dumps, right? Well this routine gives some new options to the screen dump procedure. This accessory gives you the option of doing screen dumps along the vertical (normal) or horizontal axis. Also, for those of you who don't have EPSON (or compatible) printers, you can load a printer driver with this accessory. There are a few drivers included on the disk, and more are available in the DEGAS ELITE package

and on GEnie and Compuserve. Yes, even those weird printers can now do screen dumps thanks to DeskCart

MEMORY TEST: I guess this feature was added because 13 is an unlucky number! According to QMI, the memory test doesn't do a full, complete test, but it will catch gross problems. This test also checks and tells you which version of ROM's you have in your ST and which version of DeskCart you are using.

*** Notes ***

Even though it comes in a cartridge, there is at least one disk based file (the .RSC file) that DeskCart needs to operate. Other files that DeskCart can use or create include a .INF file, a number of database files, notebook files, and/or appointment files. Rather than crowd up your root directory, DESKCART looks for (and expects) a folder on the disk called (any guesses?) DESKCART. If this folder is not present, you are given the option of changing disks or canceling the operation that requires the disk. A well thought out and organized design. DeskCart will work in any resolution. On a color monitor, it will survive resolution change (except the Ramdisk), but GEM may not release all the memory used before the change, so it's a good idea to reboot after a rez change. This is not a problem of DeskCart but rather a problem of the way GEM manages memory. DeskCart will also works well with a hard disk.

There is a file included on the disk that accompanies Deskcart called CLKSET.PRG. This program allows you to use the Deskcart clock with out booting all the features of the cartridge. If memory is really tight, the option is yours.

The cartridge is sealed, which brings up the question of what to do when the battery finally dies. It is supposed to have a life of three to five years, but the manual only says that the battery will last at least one year. When the battery does run down, returning your DeskCart and $10 to QMI will get you a new battery and any new revisions to the DeskCart ROMS. Sounds like reasonable policy to me.

Of course nothing is perfect and Deskcart is no exception. There are a few small problems that hve been found. The Deskcart CP does have one small "bug" (if you want to call it that...). If a program changes the colors of the desktop, Deskcart will not "recover" the original colors when the program is exited. The original Atari CP does reset the desktop colors. Also, the alarm bell does not sound for appointments. The message is displayed, but no alarm sounds. There also seems to be a problem when trying to De-ARC files in the Deskcart RAMdisk. The operation fails and returns to the Desktop. The current version of the Deskcart utilities will not operate on multiple files as stated in the manual. (Most of these problems have been reported on GEnie in the message base devoted to Deskcart. The complaints are few; the compliments and accolades are many...) Okay, nothing's perfect and these problems are more in the category of inconveniences rather than major product bugs. Future version of Deskcart should correct these small problems.

If you can't tell by now, I like DeskCart. I like desktop accessories and DeskCart gives me a lot of them in a small package. (Both physically and in terms of memory.) I've only had it for a little over a week so far, but I haven't found any bugs yet. DeskCart works, and it works well. Every ST should have a DeskCart

I paid $74.95 for this wonderful product and I still can't shake the feeling that I didn't pay enough! I hope QMI and John DeMar reap the financial reward they deserve for bringing this product to the ST. I highly recommend DeskCart.

(If this article sounds like a commercial, I'm sorry, but I can't say enough good things about Deskcart. No, I am not affiliated with QMI and I won't get any commission if you buy a DeskCart of your own -- as I think you should!)

The Polyglot Programmer

by Michael Stomp

WHERE AM I?

The main use I have made of my ML Assembler is to write routines that I can call from Basic programs using the USR function. One of the largest problems you run into when you do this if finding a safe place in RAM to place them. Basic leaves us Page 6 (locations 1536-1791) for that purpose; the problem here is that 256 bytes is often insufficient. Besides, everybody and his brother uses Page 6, so you often run into conflicts. You can't be sure that anyplace between MEMLO and MEMTOP is safe; Basic does pretty much as it likes in that area. Putting stuff just above DOS and moving MEMLO up doesn't always work either; it might get clobbered if you try to use it with another version of DOS. All in all, life is much easier if your ML routines are relocatable.

I guess I should define that: an ML routine is relocatable if you get the same code, no matter where in memory it is assembled. Since it is the same code everywhere, it follows that you can put it anywhere - in particular, into a string variable. Then Basic will protect it, and you can get its location by using the ADR function. This is a common practice.

The definition above, however satisfying it may be intellectually, is not of much help when it comes to making you code relocatable. So I have an equivalent definition which is more practical: a ML routine is relocatable if it nowhere refers to an absolute address within itself. This means, be careful about the labels you use. Don't JMP or JSR to an address within the routine. Branches are okay, since all the branch instructions use relative addressing. (How nice it would be if we could use relative addressing in other instructions!) You can get the same

effect of a JMP by using a forced branch; i.e., instead of JMP LABEL you should use:

```
CLC
BCC LABEL
```

(Assuming you don't need the carry flag at that time. Usually you don't.) Interestingly enough, this takes the same amount of memory and time as the JMP. The only problem you might run into in a large routine is the limitation that you can only branch about 127 bytes either way. If you exceed that - and can't handle it by rearranging the code - you will have to use an island. This is another branch within reach of the original one that the in-line code jumps over, as:

```
        CLC
        BCC ISLAND+2
ISLAND  BCC LABEL
```

Your original branch that wouldn't reach LABEL is changed to BCC ISLAND.

Another thing that can make code non-relocatable is the use of data contained within the routine itself. An example of this is the routine CONVERT that I presented in the June issue, page 10. In that routine I used the look-up table, LU in the instruction ORA LU,X. That is the only thing that keeps CONVERT from being relocatable. But here is a way to get around that problem. We establish a two byte pointer in Page Zero and put the address of the table there. Then we can access it by using "indirect indexed" addressing:

```
ORA (POINTER),Y
```

(This addressing mode requires that we use the Y register and a Page Zero address for the pointer.)

The problem now is, how do we get the address of LU into POINTER? How, indeed, can we know what LU is, since we have absolutely no idea where in RAM Basic has put the string containing this

routine? Actually we do have an idea;when Basic executes the USR instruction, it stores the address of the routine it jumps to in two bytes at FR0 (212 and 213). This is also the place to put the result that the USR returns to Basic. All we need to do is find out how far from the beginning of the routine the label LU is (your assembler will calculate that for you) and add that number to the address in FR0. The result will be the new address of the data. Since we need a Page Zero address for the pointer we might as well use FR0 for that too — we won't be needing it for anything else for a few microseconds!

So, here is an updated, completely relocatable version of CONVERT - along with a few other additions to make it usable by a Basic program:

```
FR0     =       212
        *= $3000 ; Relocatable!
CONVERT CLC
        LDA #LU-CONVERT&255
        ADC FR0    ; calculate
        STA FR0    ; address of LU
        LDA #LU-CONVERT/256
        ADC FR0
        STA FR0    ; put in FR0
        PLA
        PLA        ; pull arguements
        PLA        ; from stack
        PHA        ; save character
        ROR A
        ROR A      ; shift 5 places to
        ROR A      ; right. Same as
        ROR A      ; dividing by 32
        ROR A
        AND #3     ; mask bits
        TAY        ; index into LU
        PLA        ; restore character
        AND #$9F   ; strip off bits
        ORA (FR0),Y ; put in new bits
        STA FR0    ; return result
        LDA #0     ; to Basic
        STA FR0+1
        RTS        ; done!
LU      .BYTE $40,$00,$20,$60
```

You can also use this technique to find the address of a routine you want to install as an interrupt vector. "Interrupt", you say, "what's that?" Maybe another time...

O—25

Please remember that some of us have small children who go to bed early. It would be appreciated if you would not call too late at night.

*   *   *   *   *

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